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4 DORCAS WHEELER, IN PRO PER

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6
7 UNITED STATES BANKRUPTCY COURT
8 NORTHERN DISTRICT OF CALIFORNIA

9 PG&E Corporation

10 -and-

11 Pacific Gas and Electric Company,

12 Debtors

) Bankruptcy Case No.: 19-30088 (DM)
) Chapter 11
) (Lead Case) (Jointly Administered)
)
) RESPONSE TO THE NOTICE OF THE
) REORGANIZED DEBTORS' FORTY-THIRD
) OMNIBUS OBJECTION TO CLAIMS
) REPORT OF ARBORIST (Correction)
)
) **DATE: December 15, 2020**
) **TIME: 10:00 a.m. (Pacific Time)**
)
) **PLACE: (Telephonic Appearances Only)**
) **United States Bankruptcy Court**
) **Courtroom: 17, 16th Floor**
) **San Francisco, CA 94102**

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19 **RESPONSE OF CREDITOR DORCAS WHEELER TO THE NOTICE OF THE REORGANIZED**
20 **DEBTORS' FORTY-THIRD OMNIBUS OBJECTION TO CLAIMS REPORT OF ARBORIST**
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May 17, 2017

Dorcas Wheeler
3019 Shasta Way
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Subject: Trees at 1721 N. Recreation Avenue, Fresno, CA

Ms. Wheeler:

Enclosed is a report based on my site visit and inspection of the recently heavily pruned trees in the back yard at 1721 N. Recreation Avenue, Fresno, CA. The report summarizes my observations, and conclusions in regard to the condition, and value of the trees. This cover letter is to be considered part of the report and may not be used separately.

Should you have any questions regarding my report, please contact me at your convenience. Thank you for the opportunity to be of service.

Sincerely,

Founding Partner
ASCA Registered Consulting Arborist #585
ISA Certified Arborist #WE-3517

Tree Assessment & Appraisal

Residential Property at
1721 N. Recreation Ave., Fresno, CA

Prepared For:

Ms. Dorcas Wheeler
3019 Shasta Way
Santa Rosa, CA 95403

Prepared By:

John K. Pape
ASCA Registered Consulting Arborist
ISA Certified Arborist

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May 17, 2017

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SUMMARY

I examined, assessed and appraised four trees at a residential rental property owned by Dorcas Wheeler, at her request. The trees had recently been pruned by a utility clearance tree work contractor hired by Pacific Gas and Electric. The trees were severely pruned, two were nearly completely denuded.

All of the trees will likely survive, but the three largest have been damaged by the extreme cutting, will suffer a temporary starvation of ***carbohydrates***¹ from a cessation of ***photosynthesis***, ***sunscald*** on now naked ***scaffold branches***, and infection by ***wood decay fungi***, and other maladies.

The value of the trees, for some time to come, has been diminished by approximately \$30,000. The trees will never regain their full value and I recommend removal and replacement with other species which will fare better under the utility clearance area.

The cost to remove the existing trees and grind their stumps would be \$1,690.00. The cost to replace the four trees with 36 inch box size trees of a different species would be approximately \$3,000.00.

INTRODUCTION

Background

On May 2, 2017, Dorcas Wheeler contacted Kuhtz Pape Consulting to provide a tree assessment and appraisal for two African Sumac trees, a Fern Pine tree, and a Hollywood Twisted Juniper tree, located at a residential home at 1721 N. Recreation Avenue, Fresno, CA. Ms. Wheeler was disconcerted she was not given notification the trees were to be cut, not given time to communicate with the tree contractor before work started, and was concerned about the extreme cutting which was done at the behest of Pacific Gas and Electric on those four trees in the back yard of the residence. As a result, she requested a tree assessment and appraisal on the trees.

A site visit was set for May 5, 2017 to perform a tree assessment and appraisal. Ms. Wheeler provided the history the trees and their circumstances. She stated she did not receive notification of the impending cutting of the trees, and was shocked at the severity of the cutting. She was concerned about the health and survival of the trees, the mess left behind, the technique of pruning, the loss of visual screening from the adjacent apartments, the lost value of the trees, and the loss of value to the property.

After reviewing the situation and discussing my terms of employment, I agreed to perform a basic assessment, a tree appraisal, and provide a report of my findings.

¹ All bold and italicized words are defined in glossary

Assignment

At the request of Dorcas Wheeler, I was asked to provide the following scope of services, which includes:

1. Tree inspection, consultation and recommendation regarding the condition of the trees.
2. Appraisal of the trees, and lost value.
3. Written report of findings.
4. Expert witness services, if necessary.

Limits of the Assignment

This report, and observations are based on my site visit on May 5, 2017. The assessment of the four trees was made using a **basic assessment** process and ground inspection. I had not seen the trees before the recent cutting. Ms. Wheeler provided photographs for my understanding of their condition before the cutting. Information contained in this report reflects observations made only to those items described and only reflects the condition of those items at the time of the site visit. This report is intended for the exclusive use of Dorcas Wheeler.

Survey Methods

The survey method I used was a basic tree assessment from the ground. The process included locating, identifying and measuring the trees to be assessed, examining their condition and circumstances, taking notes, and photographs. I assessed the recent work done to the trees, and their general health. A complete walk around each tree was performed looking at the site, buttress roots, trunk, and branches, unless noted. I recorded my observations of the site conditions, defects, and outward signs of possible internal defects and health issues. Measurements were made with a standard measuring tape.

OBSERVATIONS

1721 N. Recreation Avenue is in a suburban residential neighborhood. I examined two African Sumacs (*Rhus lancea*), which I've designated Trees #1 & #2. Tree #1 (see Appendix A, Photo 1) is in the southern corner of the back yard, and Tree #2 (see Appendix A, Photo 2) about midway along the back fence to the northwest of Tree #1. There was a small Fern Pine (*Podocarpus gracilior*), Tree #3 (see Appendix A, Photo 3), along the back fence, slightly to the northwest of Tree #2, and a Hollywood Twisted Juniper (*Juniperus chinensis* 'Torulosa'), Tree #4 (see Appendix A, Photo 3), in the western corner of back yard. It appeared that all of the debris from the cutting process was left on the ground in the back yard for several days after the cutting took place (see Appendix A, Photos 1 & 2). Field data collection occurred on May 5, 2017.

Tree #1, an African Sumac, has two main trunks, with a total **Diameter at Breast Height (DBH)** of 23 inches. The tree had been cut to approximately 12 to 15 feet above the ground. There were only **heading cuts** made to the branches, with no cuts pruned to a lateral large enough to assume the terminal role, known as a **reduction cut**, as advised and recommended in the ANSI A300 Part 1 9.3.1 Utility pruning standards (see Appendix B, ANSI A300 Standards for Utility Tree Care - Tree Care Industry Assoc., Inc., Pg. 8). There were several **stub cuts**, and a few poorly made, or ragged cuts with peeled bark and jagged ends, along with many dead branches left behind (see Appendix A, Photos 4 & 5). I did not see conclusive signs of directional pruning on this tree. The tree was virtually stripped of live foliage. Based on Photo 7 provided by Ms. Wheeler, this tree was healthy and robust without any serious problems before the recent cutting took place.

Tree #2, an African Sumac, has two main trunks, with a total DBH of 29 inches. The tree had been cut to approximately 12 to 15 feet above the ground. There were only **heading cuts** made to the branches, with no cuts pruned to a lateral large enough to assume the terminal role, known as a **reduction cut**, as advised and recommended in the ANSI A300 Part 1 9.3.1 Utility pruning standards (Tree Care Industry Assoc., Inc.). There were several **stub cuts**, along with many dead branches left behind (see Appendix A, Photo 6). I did not see conclusive signs of directional pruning on this tree. The tree was virtually stripped of live foliage. Based on Photo 8 provided by Ms. Wheeler, this tree had healthy and robust foliage before the recent cutting took place. There was some surface roots which had been cut, some existing sunscald, trunk wounding, and some fungal infection present before the cutting took place.

Tree #3, a Fern Pine, has a DBH of 6 inches. The branches of this tree were headed back to approximately 10 feet from the ground. It is a young tree with good vigor. About 60% of the trees foliage prior to cutting remains (see Appendix A, Photo 9).

Tree #4, a Hollywood Twisted Juniper, has a DBH of 19.5 inches. It was cut in such a way as to remove its lateral branches, which were growing directly under the utility wires (see Appendix A, Photo 10). Most of the cuts from this work were stub cuts or ragged cuts (see Appendix A, Photo 11). . Past and recent trimming has pushed the growth of this tree toward the property behind Ms. Wheelers' property (see Appendix A, Photo 10).

ANALYSIS

All tree diameter measurements were made with a 20 foot measuring tape. The African Sumacs and the Hollywood Twisted Juniper were appraised using the **trunk formula method**, since they were too large to be commonly replaced (> 8" DBH). This appraisal method is described in the Guide for Plant Appraisal, Ninth Edition, which is supplemented by the Western Chapter of the International Society of Arboriculture Species Classification and Group Assignment regional supplement (see Appendix C). The Fern Pine was appraised using its replacement cost.

DISCUSSION

PG&E, as a utility provider, has the right and the obligation to trim trees within their easements across private property. They also are obligated by their own statements to the public, and by other accepted standards, such as those established in the American National Standards, approved by the Tree Care Industry Association (see Appendix B, ANSI Standards for Utility Tree Care), to do their tree pruning to a certain level of professional quality.

PG&E emphasizes their obligation to a high standard of tree pruning for line clearance on their website at https://www.pge.com/en_US/safety/yard-safety/powerlines-and-trees/tree-work-near-distribution-lines.page.

PG&E says at their website, “As a courtesy, tree crews cut larger limbs into more manageable lengths and leave wood on-site for customer use. They also chip woody debris, including dead material, up to 4 inches in diameter wherever accessible, or follow best-management practices established for safe, environmentally responsible debris disposal.”

PG&E says “PG&E's highest priority is public safety and we engage our customers with a robust communication process. Personal notifications include: Automated phone calls / Door hangers / Letters / Phone calls / In-person visits / Customer satisfaction surveys”

PG&E states on their website, “If a tree needs work to meet clearance requirements, we mark it with paint. This indicates that it will be pruned in the coming weeks. Tree work is generally done by our certified tree contractors at no cost to you. Since state law requires that we maintain our lines and keep them free of hazards, the property owner's permission is not required.”, and “Utility tree work uses directional pruning, a method recommended by the International Society of Arboriculture, American National Standards Institute (ANSI) and the National Arbor Day Foundation. Directional pruning reduces growth towards the power lines and encourages growth away from the lines. Trees pruned in this way are less susceptible to pests and diseases. They may appear unbalanced, but if they are healthy, they will thrive and the appearance will soften over time. Directional pruning allows trees to coexist safely with power lines. If you see a tree with marks on it and have questions, please call us at 1-800-743-5000.” PG&E goes on to say, ““Only professionals do the tree work.”

Trees #1 & #2, the African Sumacs:

This species is tough and resilient, and often responds to harsh cutting with a high quantity of **epicormics shoots** from below the cuts. Such shoot growth creates branches that are less well attached to the stem they arise from, than originally grown laterals arising from the stem (Gilman, Kempf, Matheny & Clark, Pgs. 16 & 79). This is why it is important, as stressed in the ANSI Tree Care Standards to prune to a sufficiently-sized lateral whenever possible. Shoots arising from epicormic buds are more likely to fail in high winds, or even from being heavily leveraged by their own weight. Trees which have had the majority of their foliage removed, as in the case of these two trees, temporarily are starved for carbohydrates to provide sustenance, and future growth (Gilman, et al, Pg. 68). This also weakens the defensive systems of the tree.

The cuts on these trees appear to be made to a clearance limit. This kind of work is mentioned in the ANSI Utility Standards under number 9.3.1.5 – “Branches should be cut to laterals or the parent branch and not at a pre-established clearing limit. If clearance limits are established, pruning cuts should be made at laterals or parent branches outside the specified clearance zone. Cuts should be made close to the main stem, outside of the branch bark ridge and branch collar. Precautions should be taken to avoid stripping or tearing of bark or excessive wounding.” (see Appendix B, ANSI Standards for Utility Tree Care). Most branches were not cut to a lateral, several had improper cuts, and some were left as stubs.

Some of the stubs seen in the photographs were lateral branches which could have remained on the tree, as a branch large enough to assume the growth of the cut branch away from utilities.

Branches with large cuts larger than 2 inches in diameter typically take a long enough time to heal that wood decay fungi have a chance to implant themselves into the heartwood of the branch and slowly disintegrate it from the inside out, eventually creating a structural weakness, and an increase in the likelihood of failure.

Typically, branches with cuts larger than 2 inches in diameter are also susceptible to dry-wood termites, once the heart of the branch is exposed long enough to dry out. These creatures, along with the wood decay, can add more weakness to the structure of a tree.

When the canopy of a tree is removed, as in the case of Trees #1 & #2, especially right before the summertime or during the summertime, they can easily experience what is called sunscald. This is something like a sunburn in a person. The tree has shaded itself for an extended period of time with its canopy. When that shade is removed the bark on the underlying branches, not being acclimated to harsh sun, will burn (Gilman, et al, Pg. 14). There is already some evidence this has happened in the past on Tree #2. Such sunscald, damages the bark and **cambium** tissue sufficiently to create a wound which will not heal. This opens the tree to wood decay fungi, and other diseases, as well as insects.

Tree #3, the Fern Pine:

Because of its species, youth, small size, and the amount of foliage left on it, this tree will recover from the utility clearance pruning quickly. As it gets older and larger in size, the regular line clearance pruning will become relatively more severe, with larger cuts being made.

Tree #4, the Hollywood Twisted Juniper:

This tree is an **apically dominant** tree, one which grows in a more upright fashion. Although the pruning it has received is more aligned with the goal of directional pruning, the laterals are turning in an upright direction because of the apical dominance of this species, and will continue to grow into the clearance area as they vie for dominance.

I used methods for determining the monetary values of plants which have been established by the Council of Tree and Landscape Appraisers (CTLA). The Trunk Formula Method appraisal

process is a systematic means that utilizes data collection, analysis and the use of varying method(s) to arrive at reasonable sequential conclusions. (see Appendices B&C)

CONCLUSIONS

Although PG&E and its tree care subcontractors are legally obligated and allowed to trim trees for clearance in their easements on private land, they are also obligated to go about the work using specific standards, spelled out by their company, by the latest accepted Arboricultural best management practices, and by the ANSI A300 Utility Tree Pruning Standards.

Based on my conversation with Ms. Wheeler, she was not notified of the work in advance as stated in PG&E's publicized policies. A significant portion of the work was not done to the standards publicly stated by PG&E, nor by accepted Arboricultural standards, or ANSI A300 standards. The tree care subcontractor did not clean up the debris from the job for several days, leaving the mess piled up in the back yard at the residence. This also seems to controvert publicly stated policies.

Trees #1 & #2 African Sumacs:

Although these trees should be able to survive the severe cuts made to them to obtain line clearance, they have been opened up to disease, insects, sunscald and weakened attachments. Over time, these trees will be regularly and severely cut to maintain line clearance and will ultimately be weak and useless for their screening, and aesthetic attributes, as well as increasingly likely to lose branches. A portion of the work on these two trees was not done to standards publicly stated by PG&E, nor by accepted Arboricultural standards, or ANSI A300 standards. These two trees will never regain, or be able to keep, their structural integrity or prior value because of past, recent and future clearance pruning.

Using the Trunk Formula Method of appraisal, and based on measurements of the tree, its condition, contribution and photographs of it before it was pruned, the value of Tree #1 before trimming was \$13,300.00. Its value after the pruning was \$1,330.00, a loss in value of \$12,970.00. It would require \$370.00 to remove the remaining portion of the tree and grind the stump.

Using the Trunk Formula Method of appraisal, and based on measurements of the tree, its condition, contribution and photographs of it before it was pruned, the value of Tree #2 before trimming was \$16,500.00. Its value after the pruning was \$1,650.00, a loss in value of \$14,850.00. It would require \$390.00 to remove the remaining portion of the tree and grind the stump.

Tree #3, the Fern Pine:

This tree, will recover rapidly. Because of its young age, and small size, the cuts made to it will have little long-term affect. The issue with this tree in this situation, is its eventual size. In the Fresno area trees of this species regularly grow 25 to 50 feet in height. Because of

this, it will inevitably be in conflict with the clearance area around the power lines, and will end up with the problems described in the discussion above regarding the African Sumacs.

The Fern Pine's value, based on the size of tree required to replace it, a 36 inch size box tree, would be \$750.00. The cost to remove the existing tree and grind its stump would be \$80.00.

Tree #4, the Hollywood Twisted Juniper:

This Juniper tree is growing out of balance and leaning more and more toward the neighboring property in a way that will soon become unsustainable. A portion of the work on this tree was not done to standards publicly stated by PG&E, nor by accepted Arboricultural standards, or ANSI A300 standards. This tree will not recover quickly, as it is a slow growing tree, and a species prone to slow recovery after severe pruning. This tree will never regain, or be able to keep, its structural integrity, or prior value because of past, recent and future clearance pruning.

Using the Trunk Formula Method of appraisal, and based on measurements of the tree, its condition, contribution and photographs of it before it was pruned, the value of Tree #4 before trimming was \$3,500.00. Its value after the pruning was \$1050.00, a loss in value of \$2,450.00. It would require \$250.00 to remove the remaining portion of the tree and grind the stump.

RECOMMENDATIONS

I recommend removal and replacement of all four of the trees which are the focus of this report.

I strongly suggest replacement with small trees or large shrubs which can be easily maintained so as to provide the green screen desired in such a location, without needing to be pruned by line clearance personnel.

SUPPORTING MATERIALS

APPENDIX A: Photos

Photo 1



Photo 2



Photo 3

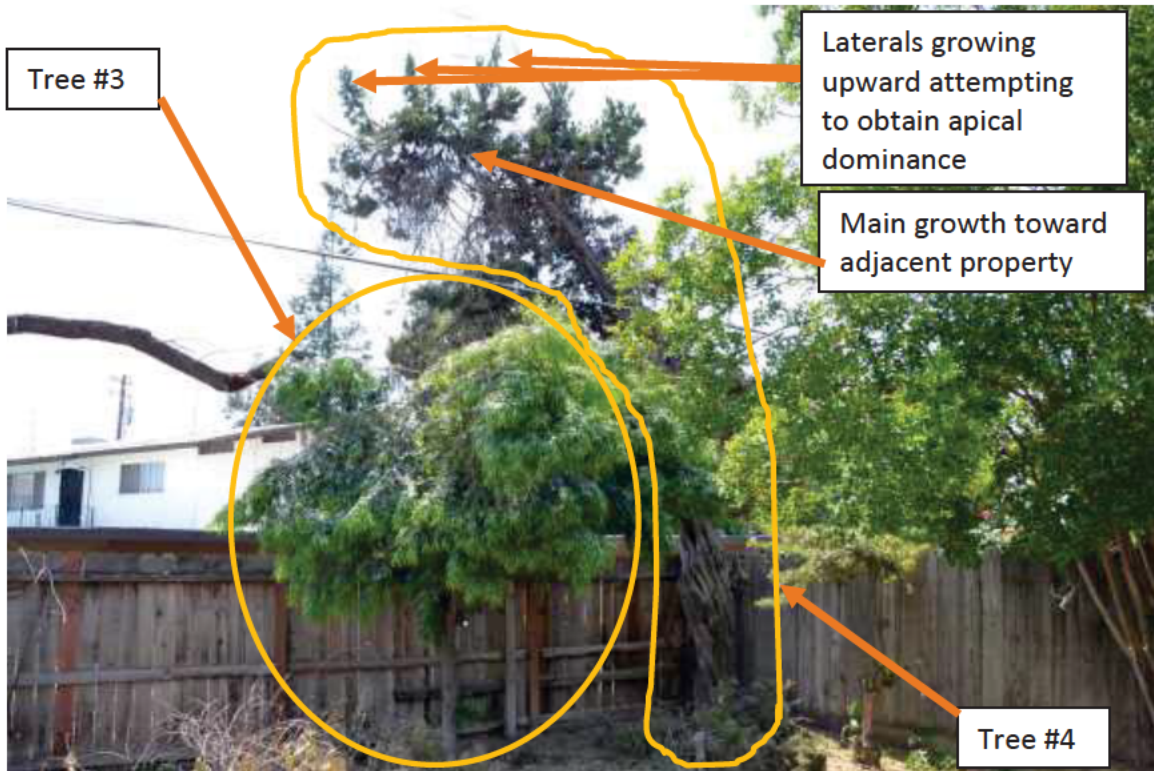


Photo 4

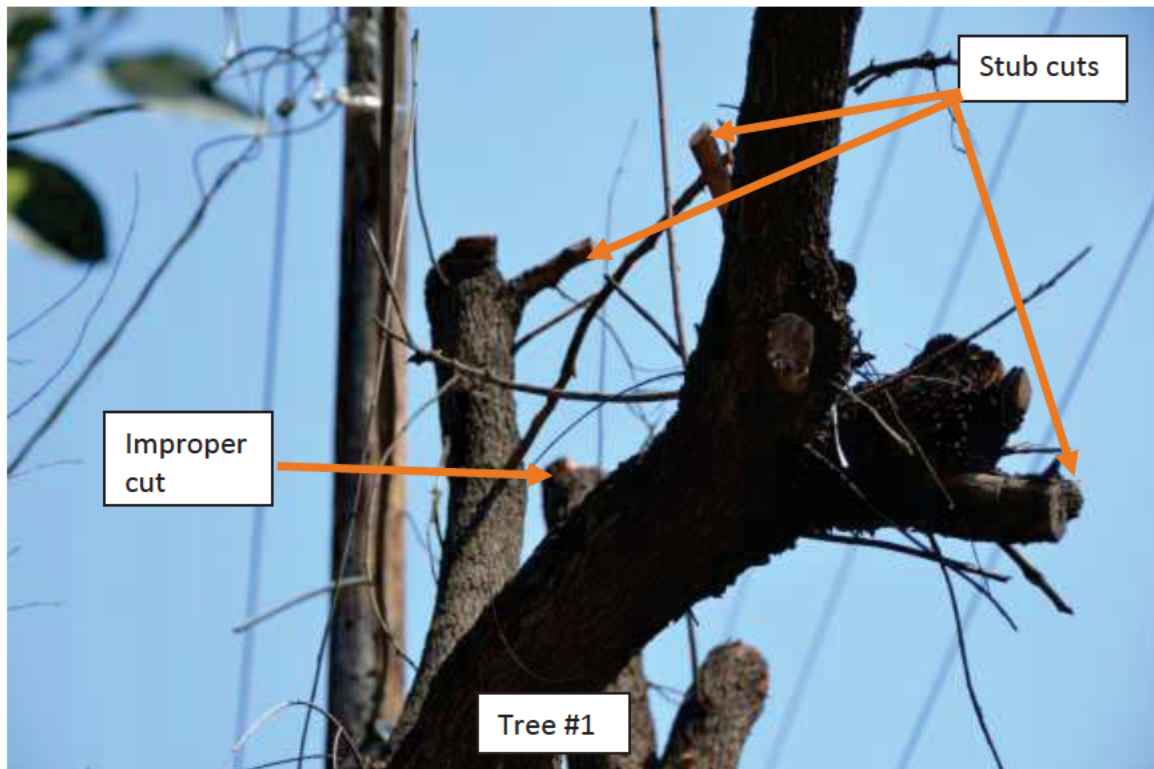


Photo 5

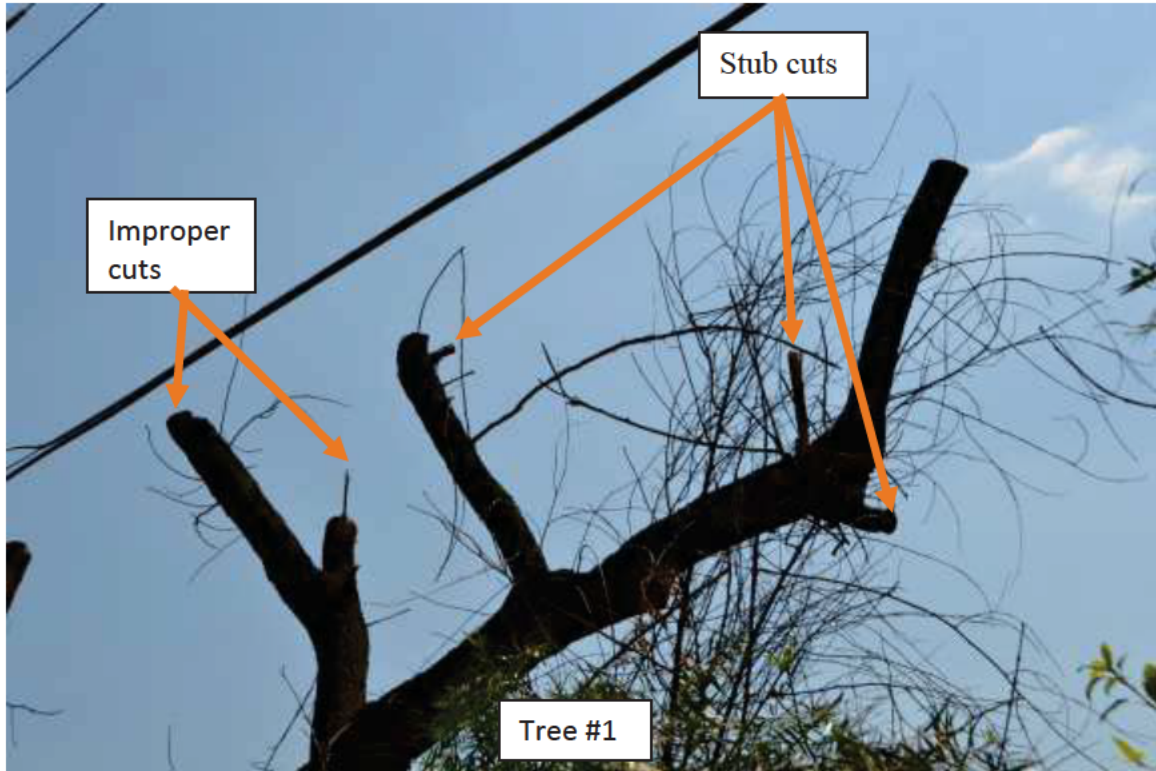


Photo 6

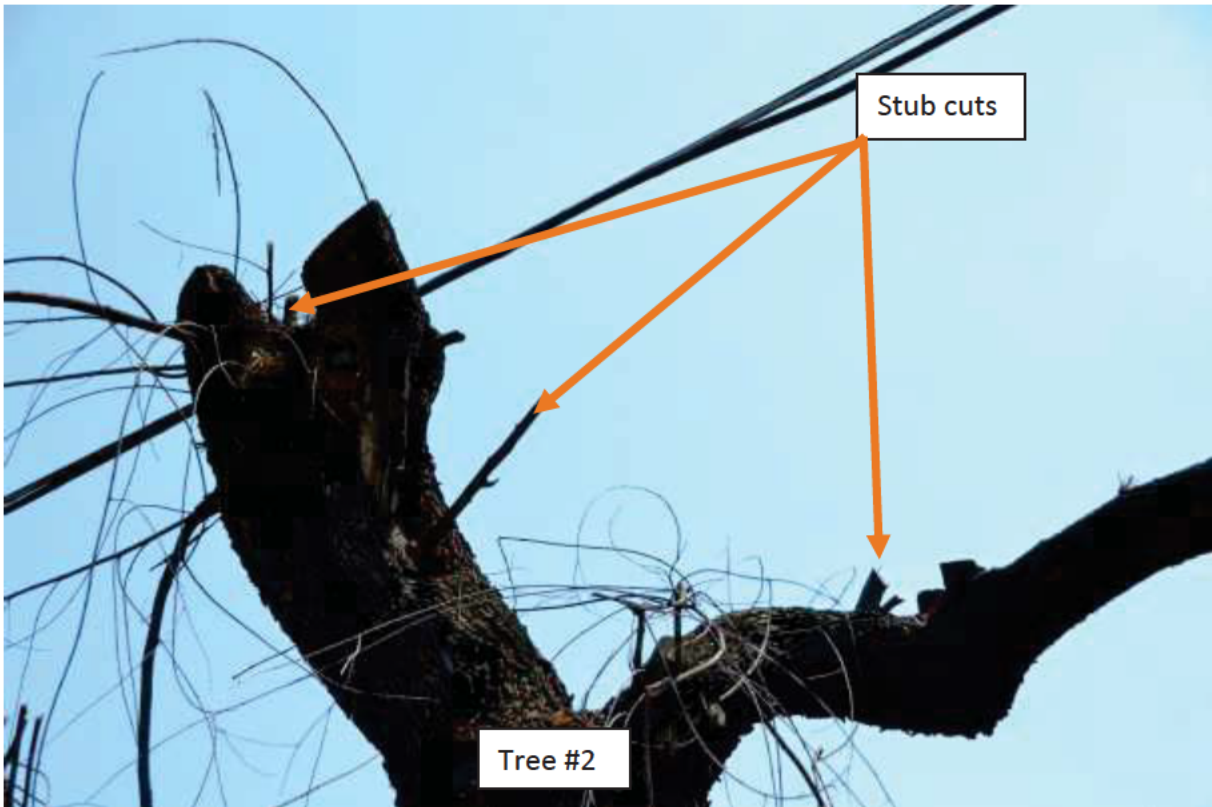


Photo 7



Photo 8



Photo 9

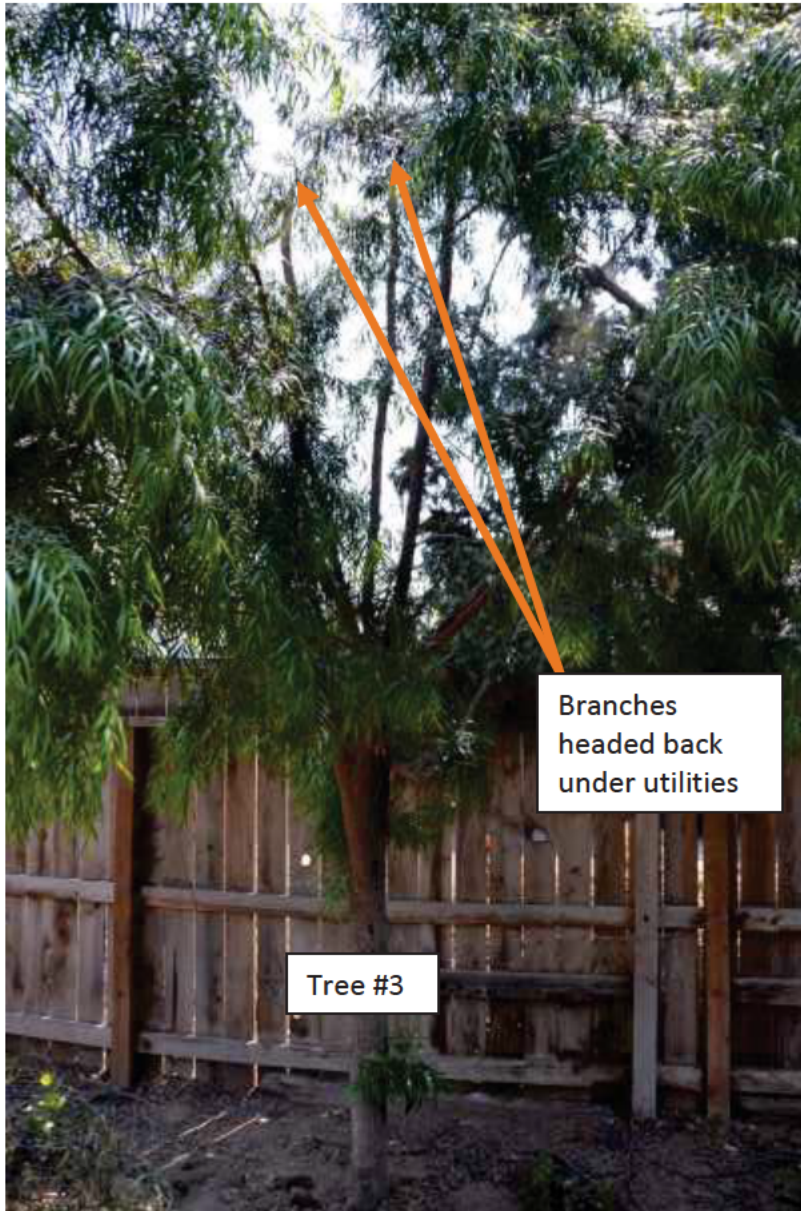
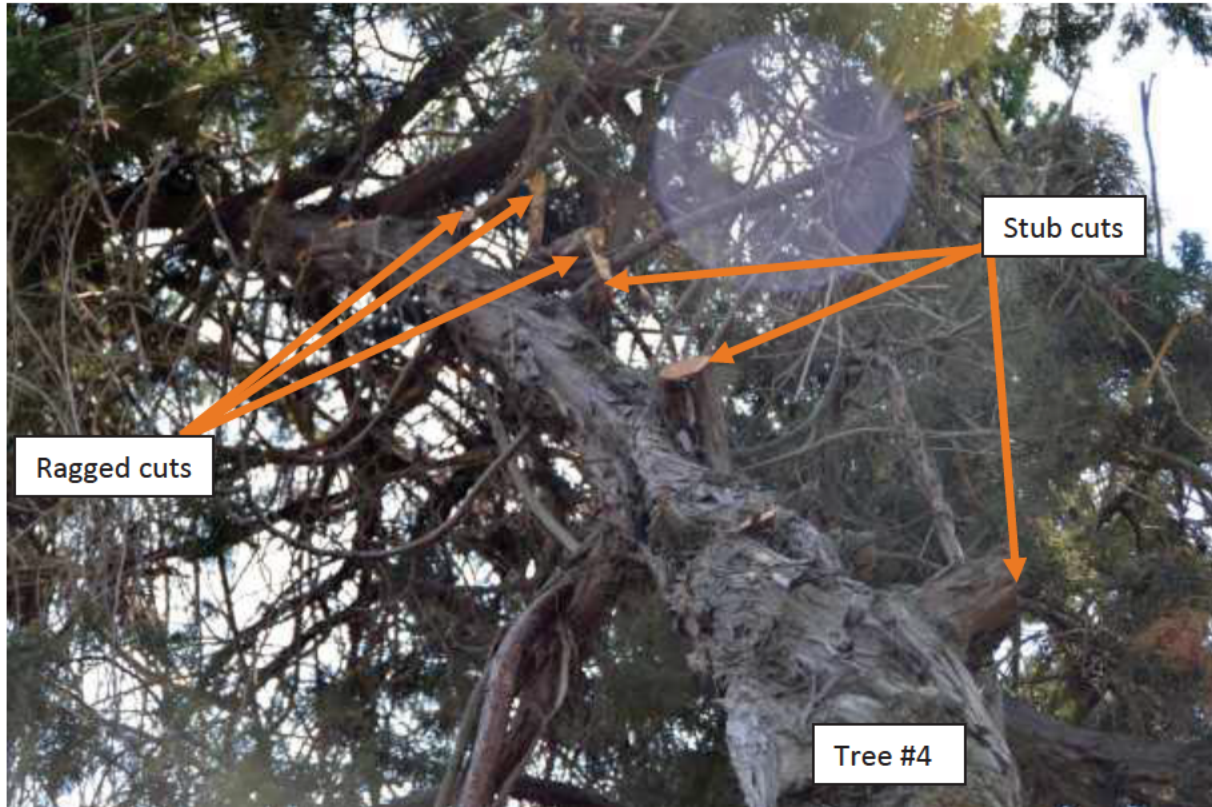


Photo 10



Photo 11



APPENDIX B: ANSI A300 Standards for Utility Tree Care

- 9 Utility pruning
 - 9.1 Purpose

The purpose of utility pruning is to prevent the loss of service, comply with mandated clearance laws, prevent damage to equipment, maintain access, and uphold the intended usage of the facility/utility space while adhering to accepted tree care performance standards.
 - 9.2 General
 - 9.2.1 Only a qualified line-clearance arborist or line-clearance arborist trainee shall be assigned to line clearance work in accordance with ANSI z133.1, 29 CFR 1910.331 335, 29 CFR 1910.268 or 29 CFR 1910.269.
 - 9.2.2 Utility pruning operations are exempt from requirements in subclause 5.1, Tree Inspection, for conditions outside the utility pruning scope of work.
 - 9.2.3 Job briefings shall be performed as outlined in ANSI Z133.1, subclause 3.1.4.
 - 9.3 Utility crown reduction pruning
 - 9.3.1.1.1 A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent branch, without cutting into the branch bark ridge or collar, or leaving a stub.

9.3.1.1.2 A pruning cut that reduces the length of a branch or parent stem shall be made at a slight downward angle relative to the remaining stem and not damage the remaining stem. Smaller cuts shall be preferred.

9.3.1.1.3 The final cut shall result in a flat surface with adjacent bark firmly attached.

9.3.1.1.4 When removing a dead branch, the final cut shall be made just outside the collar of living tissue.

9.3.1.1.5 Tree branches shall be removed in such a manner so as not to cause damage to other parts of the tree or to other plants or property. Branches too large to support with one hand shall be precut to avoid splitting of the wood or tearing of the bark. Where necessary, ropes or other equipment shall be used to lower large branches or portions of branches to the ground.

9.3.1.1.6 A cut that removes a branch with a narrow angle of attachment should be made from the outside of the branch to prevent damage to the parent branch.

9.3.1.2 A minimum number of pruning cuts should be made to accomplish the purpose of facility/utility pruning. The structure and growth habit of the tree should be considered.

9.3.1.3 Trees directly under and growing into facility/utility spaces should be removed or pruned. Such pruning should be done by removing entire branches or leaders or by removing branches that have laterals growing into (or once pruned, will grow into) the facility/utility space.

9.3.1.4 Trees growing next to, and into or toward, facility/utility spaces should be pruned by reducing branches to laterals (5.3.3) to direct growth away from the utility space or by removing entire branches. Branches that, when cut, will produce sprouts that would grow into facilities and/or utility space should be removed.

9.3.1.5 Branches should be cut to laterals or the parent branch and not at a pre-established clearing limit. If clearance limits are established, pruning cuts should be made at laterals or parent branches outside the specified clearance zone. Cuts should be made close to the main stem, outside of the branch bark ridge and branch collar. Precautions should be taken to avoid stripping or tearing of bark or excessive wounding.

9.4 Emergency service restoration

During a utility-declared emergency, service must be restored as quickly as possible in accordance with ANSI Z133.1, 29 CFR 1910.331 - 335, 29 CFR 1910.268, or 29 CFR 1910.269. At such times, it may be necessary, because of safety and the urgency of service restoration, to deviate from the use of proper pruning techniques as defined in this standard. Following the emergency, corrective pruning should be done as necessary.

APPENDIX C: Replacement Cost Method and Trunk Formula Method

Four primary factors are used in the determination of value for landscape plants; species, size, condition, and location.

The appraisal process can be broken down into two steps; one: in which the basic value of a tree, for a given size and species, is determined, and two: the basic value is then adjusted according to condition and location for the species of tree. Determination of basic value is established by state or regional organizations, in this case, the Western Chapter, International Society of Arboriculture (WCISA) (see Appendix B). The three location rating factors (site, contribution, and placement) are relative to perfect or highest value and are taken as an average. Species rating is a percentage rating determined geographically and does not include relevance to condition or location factors.

The **Replacement Cost Method** is based on the cost of replacing a plant(s) (tree, shrub, or vine) with the same or comparable **Species** and **Size** in the same location. The installed cost includes the costs of: the plant, transporting it to the site, planting in the same location, monitoring it during the maintenance period, guaranteeing the plant, and making a profit. The installed cost would then be adjusted by **Condition** and **Location** ratings of the appraised plant. If a plant is to be replaced in the same placement, the **Site** and **Placement** ratings of **Location** are fixed and usually considered to be 100 each. However, trees close to power lines, pavement or structures may be exceptions. If a plant is to be replaced, add the cost of plant removal and clean-up.

The **Trunk Formula Method** (TFM) defines value in comparison to other trees of the same species. However, it does not necessarily provide adequate market value of the tree. The TFM often is used when the tree is too large to be replaced with typical nursery stock, and can be a good representation of overall value to the property. The basic value of a tree is the sum of two factors: the cost of transplanting the largest normally available tree of the same or comparable species, and the increase in value because of the larger size of the tree being appraised compared to the size of the replacement tree. The formula used is stated as:

Value = Basic Tree Cost x Species Rating % x Condition Rating % x Location Rating %

- **Basic Tree Cost** is the Replacement Tree Cost + (Base Price x Adjusted Trunk Area, or ATA). Base price is determined by the CTLA (Council of Tree and Landscape Appraisers). ATA is the area of the tree trunk in square inches measured at standard height of 4.5 feet often referred to as DBH (diameter at breast height), less the area of the largest available transplantable tree. A table of conversions from DBH, to ATA is available in the CTLA guide.
- **Species** rating is the factor assigned to a given tree species, based on the list provided in the Western Chapter of the International Society of Arboriculture's Species Classification and Group Assignment booklet. This rating is based on individual qualities and traits, which may vary geographically within the state because of local climate and environmental influences.

- **Location** rating is a value determined by the tree's placement in the landscape and the overall area in which the property is located. It is derived by the following equation: (Site % + Contribution % + Placement %) ÷ 3. The **location** factor involves the landscape value of the **site** and the placement of the tree on the property. Consider the location of the property, overall quality of the landscape, hardscape and related elements. Understand the tree's **contribution** to the site, its function and the aesthetics to determine how effectively the **placement** of the tree provides these benefits.

- **Condition** rating is determined by establishing the overall health and structural integrity of the tree. An assessment of condition includes roots, trunk and canopy. The appraiser and the appraisal situation determine the amount of detail in this assessment.

- **Replacement Tree Costs** are the cost of the tree, cost of transporting the tree to the site, planting it in the same location as the appraised tree and monitoring it during the maintenance period. This cost is subjective to location.

Using the Trunk Formula Method as defined by the Council of Tree and Landscape Appraisers as

Value = Basic Tree Cost x Species Rating % x Condition Rating % x Location Rating %

The formula can be expanded to determine the values for each component as:

V = (RC + ((BP x (ATA – ATr)) x SR x CR x LR

V = Value of appraised plant.

RC = Replacement Cost for the average largest transplantable sized tree that a nursery can provide in this area.

BP = Base Price per square inch dollar value of a tree.

ATA = Adjusted Trunk Area value at DBH in square inches of the tree. This number is available from the chart provided in the CTLA guide.

ATr = Adjusted Trunk replacement value at DBH in square inches of the average largest transplantable sized tree that a nursery can provide.

SR = Species Rating value determined Western Chapter of the International Society of Arboriculture's Species Classification and Group Assignment booklet.

CR = Condition Rating value between .00 and 1.00 for the tree, and determined by assessment of overall tree health and structure.

LR = Location Rating value between .00 and 1.00, and determined by rating the placement of the tree in the landscape. This value is an average of site, contribution and placement ratings.

APPENDIX D: Trunk Formula Method Worksheets

Number:	1				
Client:	Wheeler, Dorcas		Inspection Date:	5/5/2017	
Species:	Rhus lancea		DBH:	23	
Replacement Cost:	\$345.00	#1			
Classification#:	2		Group#:	2	
Basic Price:	\$77.04	#2			
Appraised tree trunk area, sq.in.:	415.27	#3A	Basic Price difference:	\$31,819	#4
Replacement tree trunk area, sq.in.:	2.24	#3B	2 X 3C		
Difference in trunk area, sq.in.:	413.03	#3C			
Adjust by species rating:	\$22,274	#5			
70%					
Basic Value:	\$22,619	#6			
\$345 + #5					
Adjust by condition:	\$18,095	#7			
80%					
From condition worksheet					
Adjust for location:	\$13,270	#8	Appraised Value:	\$13,300	#9
Location % (average of below):	73%		Rounded to nearest 100		
Site %:	70%				
Contribution %:	75%		Value lost:	\$11,970	
Placement %:	75%		90%		

Number:	2				
Client:	Wheeler, Dorcas		Inspection Date:	5/5/2017	
Species:	Rhus lancea		DBH:	29	
Replacement Cost:	\$345.00	#1			
Classification#:	2		Group#:	2	
Basic Price:	\$77.04	#2			
Appraised tree trunk area, sq.in.:	660.19	#3A	Basic Price difference:	\$50,688	#4
Replacement tree trunk area, sq.in.:	2.24	#3B	2 X 3C		
Difference in trunk area, sq.in.:	657.95	#3C			
Adjust by species rating:	\$35,482	#5			
70%					
Basic Value:	\$35,827	#6			
\$345 + #5					
Adjust by condition:	\$22,571	#7			
63%					
From condition worksheet					
Adjust for location:	\$16,552	#8	Appraised Value:	\$16,500	#9
Location % (average of below):	73%		Rounded to nearest 100		
Site %:	70%				
Contribution %:	75%		Value lost:	\$14,850	
Placement %:	75%		90%		

Number:	4				
Client:	Wheeler, Dorcas		Inspection Date:	5/5/2017	
Species:	Juniperus torulosa		DBH:	20	
Replacement Cost:	\$345.00	#1			
Classification#:	2		Group#:	3	
Basic Price:	\$45.46	#2			
Appraised tree trunk area, sq.in.:	298.50	#3A	Basic Price difference:	\$13,397	#4
Replacement tree trunk area, sq.in.:	3.8	#3B	2 X 3C		
Difference in trunk area, sq.in.:	294.70	#3C			
Adjust by species rating:	\$9,378	#5			
70%					
Basic Value:	\$9,723	#6			
\$345 + #5					
Adjust by condition:	\$4,764	#7			
49%					
From condition worksheet					
Adjust for location:	\$3,494	#8	Appraised Value:	\$3,500	#9
Location % (average of below):	73%		Rounded to nearest 100		
Site %:	70%				
Contribution %:	75%		Value lost:	\$1,050	
Placement %:	75%		30%		

APPENDIX E: Glossary

Apically Dominant – A condition in which the terminal bud inhibits the growth and development of neighboring lateral buds on the same stem formed during the same season.

Basic Assessment – detailed visual inspection of a tree and surrounding site that may include the use of simple tools. It requires the risk assessor walk completely around the tree trunk looking at the site, above ground roots, trunk, and branches.

Cambium – The thin layer of dividing and expanding cells between the inner wood and the bark of a tree. The cambium generates new wood cells on the inside and new bark cells on the outside.

Carbohydrates – A chemical compound, combining carbon, hydrogen, and oxygen in a proportion of CH₂O, which is produced by plants as a result of photosynthesis (sugars), or derived from starch or cellulose.

Diameter at Breast Height (DBH) – Diameter of the trunk at breast height (54 inches above the ground).

Epicormics shoots - An epicormic shoot is a shoot growing from an epicormic bud, which lies underneath the bark of a trunk, stem, or branch of a plant.

Heading Cuts – cutting back a branch to a bud, stub, or small lateral branch. Cutting an older branch or stem back to a stub to meet a structural or utilitarian objective.

ISA Certified Arborist – Certified Arborists are individuals who have achieved a level of knowledge in the art and science of tree care through experience and by passing a comprehensive examination developed by some of the nation's leading experts on tree care. Certified Arborists must also continue their education to maintain their certification and adhere to a Code of Ethics.

Photosynthesis – The process in green plants by which light energy is used to form glucose, a carbohydrate (chemical energy), from water and carbon dioxide.

Reduction Cuts – A pruning cut that reduces the length of a branch or stem back to a live lateral branch large enough to assume the terminal role, which is typically at least one third the diameter of the cut stem; also, cutting back a stem or branch to an existing, smaller, lateral branch that is large enough to prevent bark death on the retained lateral branch.

Registered Consulting Arborist – Registered Consulting Arborists are preeminent authorities on matters related to trees—ensuring the safety, health, and preservation of trees in our surroundings. They bring a comprehensive, objective viewpoint to the diagnosis, appraisal, and evaluation of arboricultural issues. They are dedicated to objectively assessing trees, enhancing the community, and protecting the environment. They are also devoted to a course of lifelong learning about arboriculture. Those with Registered Consulting Arborist® (RCA) status have chosen to take their career even higher by earning that designation.

Stub Cuts – Improper pruning cuts made too far outside the branch bark ridge or branch collar that leave branch tissue attached to the stem.

Sunscald – Injury to bark and cambium caused by a combination of radiant energy from light, and insufficient soil moisture. Especially likely to occur when a tree's natural self-shade had been removed in areas with intense sunlight and summer heat.

Wood Decay Fungi – Fungi which infect exposed wood and grow in areas of old wood known as heart wood, slowly destroying the lignin and cellulose wood cells are mostly composed of. This weakens the structural integrity of the tree, and increase the odds of failure.

APPENDIX F: Bibliography

ANSI A300 (Part 1)-2008, “American National Standards – for Tree Care Operations – Tree, Shrub, and Other Woody Plant Management – Standard Practices (Pruning)”, Tree Care Industry Association, 2008, Pages 8-9

Structural Pruning, A Guide for the Green Industry, by Gilman, Kempf, Matheny, Clark – The Urban Tree Foundation, 2013, Pages

APPENDIX G: Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Title and ownership of all property considered are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
2. It is assumed that any property is not in violation of any applicable codes, ordinances, statues or other governmental regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible. The consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
4. Various diagrams, sketches and photographs in this report are intended as visual aids and are not to scale, unless specifically stated as such on the drawing. These communication tools in no way substitute for, nor should be construed as, surveys, architectural or engineering drawings.
5. Loss or alteration of any part of this report invalidates the entire report.
6. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior written or verbal consent of the consultant.
7. This report is confidential and to be distributed only to the individual or entity to whom it is addressed. Any or all of the contents of this report may be conveyed to another party only with the express prior written or verbal consent of the consultant. Such limitations apply to the original report, a copy, facsimile, scanned image or digital version thereof.
8. This report represents the opinion of the consultant. In no way is the consultant's fee contingent upon a stipulated result, the occurrence of subsequent event, nor upon any finding to be reported.
9. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule, an agreement or a contract.
10. Information contained in this report reflects observations made only to those items described and only reflects the condition of those items at the time of the site visit. Furthermore, the inspection is limited to visual examination of items and elements at the site, unless expressly stated otherwise. There is no expressed or implied warranty or guarantee that problems or deficiencies of the plants or property inspected may not arise in the future.

APPENDIX H: Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the Arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the Arborist. An Arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

APPENDIX I: Certificate of Performance

I, John K. Pape, Certify:

- That I have inspected the trees and/or property evaluated in this report. I have stated findings accurately, insofar as the limitations of the Assignment and within the extent and context identified by this report;
- That I have no current or prospective interest in the vegetation or any real estate that is the subject of this report, and have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions and conclusions stated herein are original and are based on current scientific procedures and facts and according to commonly accepted arboricultural practices;
- That no significant professional assistance was provided, except as indicated by the inclusion of another professional report within this report;
- That compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party.

I am a **Registered Consulting Arborist** with the American Society of Consulting Arborists (ASCA).

I am a **Certified Arborist** with the International Society of Arboriculture (ISA).

I have attained professional training in all areas of knowledge asserted through this report by completion of certification and by routinely attending pertinent professional conferences and by reading current research from professional journals, books and other media.

I have rendered professional services in a full time capacity in the field of horticulture and arboriculture for more than 40 years.

Signed:



Date: May 17, 2017

Name: John K. Pape

Registered Consulting Arborist #585

Certified Arborist #WE-3517A